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ABSTRACT

Many teachers resist the use of media in their classrooms, holding an anti-machinery bias much like that of the Luddite movement of 19th century England. Based on experience dating back to the protests by teachers in France against the introduction of books into the classroom in the 16th century, a law of media acceptance in the classroom can be suggested: the deeper the impact of the media on the teaching and learning process, the stronger the negative reaction. The degree of resistance to new media by the teacher increases as the new medium takes over more of the teacher's dominating role in the classroom, as seen in the progression of acceptance of blackboards and books through increasing resistance to educational films and television, teaching machines, and computer-assisted instruction. When educational authorities really want to introduce a reasonably media-minded (and more efficient) educational system, they should impose a compulsory integrated media course and provide a well-equipped educational media center in every teacher training institute. (EW)

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- 1.1. I would like to tell you a story of love and hatred, the old story of man - machine relationship. As you all know, this relationship has always been a stormy and passionate affair.
- 1.2. In the 19th century textile workers rioted against the new machinery installed in the factories. In England they were called Luddites after their mythical leader Ned Ludd ; in France and Belgium textile workers of the famous Jacquard Mills threw their wooden shoes ("sabots") between the cog wheels and were called the first "saboteurs"... There still are many Luddites in our increasingly technological world : just like the Indians with their spectacular raids against the threatening train in the Great Plains, Belgian ecologists climb the barricades in order to prevent the Super Rapid Train from ploughing through the countryside at a speed of 300 km per hour. Of course, the S.R.T. will run these Luddites into oblivion, such as our holy cow, the T.V.set, ridiculed the gloomy philosophers, who predicted plagues like cancer and glaucomic eye diseases to our T.V.-generation...
- 1.3. I shall of course have to impose some limitations to this huge subject of man - machine relationship.

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- .3.1. "Man" in this case only means "the teacher", who is faced with a worldwide crisis; the efficiency of his handicraft, of his artisanal chalk-and-talk pedagogy, has indeed become highly questionable due to the increasing impact of new media; moreover, the school lost its monopoly of teaching and learning and has to share the traditional teaching burden with young and attractive competitors (homecomputers, viewdata, Open University, multimedia learning packages etc.).
- 1.3.2. The second restriction implies that "machine" in this context only means the puzzling labyrinth of educational technology, starting with chalk and printed material and temporarily ending with interactive video, viewdata, the microcomputer, satellite T.V., video conferencing and other science fiction machinery.

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1.3.3. The third limitation is the kind of school; I only want to talk about the necessary facilities for the Teacher Training Institutes. An ordinary secondary school cannot afford to buy all existing educational devices in sufficient quantity, because their impact has been so transitory, so transient that it is useless and nearly immoral to rebuild a whole school for each new device. J.P. Campbell was right when he drew up the inevitable steps of educational media temporariness (1971) :

- 1°) each new device is strongly defended by a few fans ;
- 2°) seminars, in-service training, articles, books and research are available for a minority ;
- 3°) opponents offer rear-guard warning; most teachers just wait ;
- 4°) critics question the usefulness of the device; backlash...
- 5°) a new technique appears and the whole procedure is repeated...

The only basic new conception of a secondary school will therefore be that a learning resources centre (media centre, "Mediathèque") must be provided as the always accessible information centre, where at least 1/10th of the students can work individually or in groups.

But the teacher training institute should provide all kinds of educational devices and its building should be constructed or adapted in order to allow the full integration of all existing media into the daily school activities. The teacher training institute should indeed be a model of media minded teaching and learning.

2. Let us now examine the potential contribution of educational technology to the efficiency of teaching and learning. According to scientific research this contribution is potentially overwhelming : selected media make possible to learn more in a shorter time when their use is integrated into the daily teaching and learning.

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This fundamental law should therefore be applied to all instructional activities, even if in some applications of computer automation our limited analogical human concepts of time and space are totally surpassed by digital techniques : indeed, 1 million pictures or pages (25 meters of printed material !) can now be stored on one small disk, and one second will do to retrieve one chosen picture or page and project it on our T.V.-screen ! This means the approaching death of encyclopaedias, dictionaries, telephone books, all non-fictional and mostly expensive documents, which fill (and overload) our actual learning resources centres. Within 20 years, school media centres will mainly consist of fiction books and computer terminals, linked to a central database... School architects should therefore keep up an intense contact with educational media specialists in order to build all-purpose teacher training schools or adapt existing buildings to future technological developments.

3. In order to promote the urgently necessary integration of media into the educational practice, all teacher training institutes should offer a compulsary media course for future and in-service teachers.

The course runs as follows :

<u>A C T I V I T Y</u>	<u>R O O M</u>
3.1. lesson subject	3.1. class room
✓ 3.2. media selection	✓ 3.2. workshop
✓ 3.3. the appropriate material is available not available	✓ 3.3. learning resources centre
✓ 3.3.1. evaluation production of of software software	✓ 3.3.1. workshop
✓ 3.3.2. handling of hardware handling of hardware	✓ 3.3.2. workshop
✓ 3.4. educational use of hard- and software	✓ 3.4. class room
✓ 3.5. software (printed, audio-visual or audiovisual) is handed in	✓ 3.5. learning resources centre

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4. The introduction of this integrated media course has very important consequences for the architectural conception of all teacher training institutes ; each of them should have a centralized Educational Media Centre (E.M.C.), consisting of 5 interrelated, preferably adjacent sections :

- 4.1. a well-equipped workshop for software production and for handling devices ;
- 4.2. a learning resources centre, containing printed, audio, visual and audiovisual material and the necessary equipment for screening and evaluating (capacity : 1/10th of student population ; 2 - 3 m² per student) ;
- 4.3. a computer class for computer literacy and computer assisted learning (for reasons of compatibility the same operating system should be respected everywhere, M S / D O S e.g.) ;
- 4.4. a closed circuit T.V. studio for the training of teaching skills ;
- 4.5. an audio-active-comparative language laboratory for maximum 18 students.

5. In the 5th century B.C. the Greek philosopher Protagoras stated that man is the measure of all things.

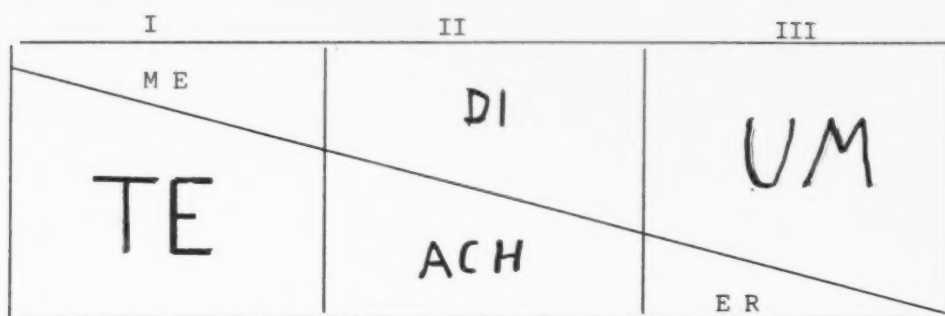
In our century, about 2500 years later, this statement remains true. Even if architects and educational technologists construct perfect educational media centres, these will only be integrated into the daily teaching practice, when all teachers will have become media-minded.

Let us then face the formidable fact : the vast majority of teachers in all our countries still are more or less fervent supporters of conservative Ludditism. They intend to teach as they were taught (mostly by talk-and-chalk monuments) and sceptics pretend that is easier to put a man on the moon than make teachers change their attitudes.

After 20 years of school visits and in - service training I even tend to presume to have discovered a latent law of media acceptance by teachers: the deeper the impact of media on the teaching and learning process, the stronger the negative reaction, and vice versa.

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There are 3 phases in this law of acceptance



In phase I the teacher accepts a medium, which he uses occasionally, so that he/she keeps the dominating role (blackboard, book, overhead projector, slides, gramophone record etc.) ; in phase II (educational film, school T.V.- or radioprogramme, language laboratory, etc.) the teacher's acceptance of media is decreasing because they take more time and eliminate him/her during 20 minutes; in phase III media take over a large part of the teacher's class activity, so that they are progressively repelled (where are the teaching machines of 25 years ago ? Will an eventual breakthrough of computer assisted instruction not be instinctively prevented by most teachers ?).

Up to now, the Luddites among teachers were on the winning side ; most educational media were only fully accepted by an enthusiastic minority, so that their influence remained marginal. Indeed, what became of the gramophone, welcomed by Wiener as a revolutionary teaching device ? What happened to the educational film, warmly welcomed in 1910 ? And to schoolradio and -television, to the language laboratory, the programmed instruction with its teaching machines of 25 years ago ?

Teachers have a remarkably long and successful antimedia-Luddite history : in the 16th century our French colleagues sent an indignant delegation to King François I, because some schools wanted to introduce our first visual medium, the book, into the classroom ! They urged the King to ban the books, because they threatened to interrupt the traditional personal contact between teacher and taught...

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6. When educational authorities really want to introduce a reasonably mediaminded (and more efficient) educational system, they should impose a compulsory integrated media course and provide a well - equipped E.M.C (Educational Media Centre) in every teacher training institute. Only then do I foresee a permanent opposition cure for the Luddite generations and a respectable "mariage de raison" between new teachers and new media...

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